Glencoe McGraw Hill
Algebra 2, Algebra II

Degree of Evidence regarding the Standards for Mathematical Practice:

Limited Evidence

Summary of evidence:

1. **Make sense of problems and persevere in solving them**. In the chapters reviewed, there are connections between tables and graphs (multiple representations) (e.g. p. 249, p. 273 #68). There are some opportunities for students to describe what an answer means. There are some open-ended questions (e.g. p. 265 #55, p. 274), but there is no opportunity for students to make a plan, implement, then reflect and adjust the plan. Most questions are very limiting in scope. There are some opportunities for students to determine reasonableness (e.g. p. 255 #41c). Overall, there are infrequent and limited open-ended problem-solving opportunities for students.
2. **Reason abstractly and quantitatively**. In the chapters reviewed, many application problems are mixed throughout the practice problems and examples, but the questions are still very scripted with many leading questions. Most of the problems have students apply algorithms. Units are included in the application problems. Often the algorithm is presented and examples applying it follow (e.g. p. 250). Overall, there are very few opportunities for students to apply mathematics beyond an algorithm.
3. **Construct viable arguments and critique the reasoning of others**. Partner work is noted in the teacher resource, but there is limited to no direction about the communication – for example to have students justify their thinking and critique each other's reasoning. There are occasional opportunities to make and test conjectures (e.g. p. 311), and there are some questions that ask students to explain. There are some error analysis problems (roughly one per section) where students are asked to explain or correct an incorrect answer (e.g. p. 256 #61). There are some opportunities for students to justify their thinking.
4. **Model with mathematics**. In the chapters reviewed, there are many application problems that ask for mathematical models, but the questions are scripted and narrow (e.g. p. 374 #73 & 78). Students create mathematical models, but rarely, if ever, revise them. Rarely are models used for difficult mathematical concepts (e.g. one missed opportunity – completing the square p. 288). Overall, there are opportunities for students to create mathematical models.
5. **Use appropriate tools strategically** Graphing calculators are referenced frequently in the chapters reviewed (e.g. pp. 253, 258, 262). There are several graphing calculator labs. There is no discussion of advantages or shortcomings of technology or tools. There are web references in the student text and teacher resource, and there are labs using technology such as motion detectors and temperature probes. These labs are in a separate section, so implementation is teacher dependent (e.g. p. 319, p. 540). Spreadsheets are referenced. Technology is occasionally used to explore concepts. Technology is a main part of the chapters reviewed.
6. **Attend to precision.** Examples use proper notation and are precise. In the chapters reviewed, examples of precise communication, for example a sample student conversation in the teacher's edition, were not present. Students have minimal opportunities to communicate. The application problems are expected to be answered with correct units.
7. **Look for and make use of structure**. In the chapters reviewed, patterns are occasionally used to make generalizations (e.g. p. 303). However, this is done in "labs" which are separate sections, so implementation depends on the teacher. Often rules are given at the beginning of the section and examples of applying the algorithm follow. The resource typically starts with a general rule, and then shows examples applying the rule. Prior learning is stated as rules at the beginning of the

section. There is very little to no use of specific examples moving to generalization.

8. **Look for and express regularity in repeated reasoning.** In the chapters reviewed, patterns are rarely used to make generalizations, and rarely are students asked to discover shortcuts from repetitiveness. There very few, if any, opportunities for students to generalize a pattern to determine a rule.